

VEASEY (C.A.)

TROPACOCAINE,

The New Local Anæsthetic, and
its Use in Diseases of the Eye.

BY

C. A. VEASEY, M. D.,

Clinical Assistant to the Ophthalmological Department
of the Jefferson Medical College Hospital; Consult-
ing Ophthalmic Surgeon to the Philadelphia
Lying-in Charity and Nurse-Training
School, etc.

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CLINICAL ASSISTANT TO THE OPHTHALMOLOGICAL DEPARTMENT OF
THE JEFFERSON MEDICAL COLLEGE HOSPITAL;
CONSULTING OPHTHALMIC SURGEON TO THE PHILADELPHIA LYING-IN CHARITY
AND NURSE-TRAINING SCHOOL, ETC.

TROPACOCAINE, a comparatively new alkaloid recently isolated by Giesel* from a Java coca plant, which has been investigated physiologically by Chadbourne,† is a local anæsthetic somewhat resembling cocaine in its action and yet differing from it in many points.

Chemically it is benzo-pseudo-tropeine, and, according to Chadbourne, is not to be classed with the "true anæsthetics," which cause ischæmia, nor with the "anæsthetica dolorosa" of Liebrich, which cause irritation and hyperæmia, but is to be considered the physiological connecting link between the two classes.

It has been used by Schweigger and Silex, of Berlin, and the former claims to have performed painless iridectomy in less than two minutes after the instillation of one or two drops of a three-per-cent. solution, while the latter

* *Pharmaceut. Zeitung*, xxxvi, July 4, 1891.

† *Brit. Med. Jour.*, 1892, vii, p. 402.

has done a tenotomy without any pain in less than a half-minute after an instillation was made.

Desiring to test for myself its action upon the human eye, I have now used it for several weeks almost to the exclusion of cocaine, and in those cases in which I had previously been employing a four-per-cent. solution of cocaine hydrochloride, with the following results:

When first introduced into the eye there was not the marked ischæmia which followed the introduction of cocaine. There was comparatively no smarting—if dissolved in the normal saline solution, and the preparations used by me were three-per-cent. solutions of the hydrochloride of the base made up with $\frac{6}{10}$ -per-cent. solutions of chloride of sodium, as recommended by Schweigger—and in a short time the anæsthesia was complete. As nearly as I could estimate, the average time from the instillation until complete anæsthesia of the cornea was produced was about two minutes, though the experiments of Chadbourne make the time a little shorter, and the anæsthetic effect lasted about eight minutes, but could be prolonged by repeating the instillations at various intervals.

The pupil was rarely affected, but in a few cases was slightly dilated, the dilatation being maintained for a short time only. In those cases in which there was response from the pupil the “range” of accommodation was slightly changed, the near point being carried farther from the eye. The vision was made slightly hazy, but there was no paralysis of accommodation; and in the cases in which there was no pupillary response there was no change in the accommodation or acuity of vision.

The palpebral fissure was somewhat enlarged, as is the case with cocaine, but at no time did I observe any ptosis.

I have used it in some minor operations, but do not like it any better than the ordinary cocaine solutions; and

as the price of the preparation is so high—being about forty cents a grain wholesale—it is hardly probable that it will come into general use.

For removing foreign bodies from the cornea, or for making strong astringent or caustic applications to the cornea or conjunctiva, it is preferable to cocaine on account of its feeble and infrequent action upon the accommodation, thereby preventing the annoyance of a hazy vision for a time; and in cases of keratitis, when an anæsthetic must be employed, it is to be preferred, as it does not diminish to so great an extent the blood supply.

For other purposes I have not found it superior to the cocaine hydrochloride in general use.

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